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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
LIVEDALEN, BRIAN J	

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/536,472	CASTRO, PASCAL	
	Examiner	Art Unit	
	Brian J. Livedalen	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 and 27 is/are rejected.

7)☒ Claim(s) 9-26 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 May 2005 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 9-26 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim *cannot depend from any other multiple dependent claim*. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claims 1 and 27 recite the limitation "the successive measurements." There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the time variation." There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Krieg et al. (4902137).

In regard to claim 1, Krieg discloses (fig. 1) a process for detection of gas bubbles in a liquid adapted to a device having a light source (2), a light detector (21) and a data controlling and processing unit (22) linked to a client system (30) (column 5,

lines 26-51, column 6, lines 10-24) having the steps of emitting light from the light source, for acquisition of successive measurements of light intensity perceived by the light detector and for calculation of a variation between two successive measurements of the light intensity (column 7, lines 12-20, column 8, lines 55-58).

In regard to claim 2, Krieg discloses that the process further has a comparison step of the variation at a predefined threshold value S (column 7, lines 12-20).

In regard to claim 27, Krieg discloses (fig. 1) a device for detection of gas bubbles in a liquid having a light emission means (2), a light detection means (21) and a data controlling and processing means (22) linked to the light detection means (column 5, lines 26-51, column 6, lines 10-24), characterized in that following emission of light by the light emission means and following the detection of light by the light detection means are capable of obtaining light detection means of successive measurements of light intensity detected by the light detection means and of calculating a variation in light intensity between two successive measurements (column 7, lines 12-20, column 8, lines 55-58).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krieg et al. (4902137) as applied to claim 2, and in view of Zweighaft (4885676).

In regard to claim 3, Krieg discloses a process for detection that compares a variation between two successive measurements with a threshold. Krieg fails to use the comparison to perform a counting operation. However, Zweighaft discloses a detection apparatus that takes the variation between two measurements and compares it to a threshold and when the variation is greater than the threshold it increments an alarm counter by a predefined value; and when the variation is not greater than the threshold it decrements an alarm counter by a predefined value (column 1, line 47 – column 2, line 31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the counting process as taught by Zweighaft to increase the stability and accuracy of the measurement system.

In regard to claim 4, Krieg in view of Zweighaft discloses a step of sending to the client system information indicating that a bubble content is greater than an authorized maximum content when the warning counter exceeds a predefined value known as the alarm value (Krieg: column 7, lines 21-32, Zweighaft: column 2, lines 15-31).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krieg et al. (4902137) in view of Zweighaft (4885676) as applied to claims 3 and 4, and in further view of Galvin (4749871).

In regard to claim 5, Krieg in view of Zweighaft discloses a step of sending to the client system information indicating that a bubble content is greater than an authorized

maximum content when the warning counter exceeds a predefined value known as the alarm value (Krieg: column 7, lines 21-32, Zweighaft: column 2, lines 15-31). Krieg in view of Zweighaft fails to disclose having a predefined delay period. However, Galvin discloses a fluid detector that only sends an alarm signal after a time greater than a delay time (column 17, lines 18-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate a time delay to eliminate spurious alarm signals.

In regard to claims 6 as dependent on claims 4 and 5, Krieg in view of Zweighaft fails to disclose a ceasing step of sending to the client system information indicating that the bubble content is greater than the authorized maximum when the warning counter is less than a predefined value known as the final alarm value. However, Galvin discloses a ceasing step of sending to the client system information indicating that the bubble content is greater than the authorized maximum when the warning counter is less than a predefined value known as the final alarm value (column 18, lines 53-68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to turn off the signal so that the process can restart.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krieg et al. (4902137) as applied to claim 1, and in view of Kraft et al. (5508521).

In regard to claims 7 and 8, Krieg discloses a bubble detection process as set forth above. Krieg remains silent regarding averaging the measurements and sending the average values to a client system. However, Kraft teaches averaging successive

measurements in a liquid measurement system and sending it to a client system (column 2, lines 13-26, column 3, lines 39, 40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to average the measurements and send the information to a client system in order to detect the change in the amount of bubbles on a larger scale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Livedalen whose telephone number is (571) 272-2715. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Georgia Epps
Supervisory Patent Examiner
Technology Center 2800

bjl